

We Claim:

1 1. In an enclosed mobile container having a refrigeration unit for providing
2 conditioned air into a mixing chamber located at one end of the container, a method
3 for controlling the ripening of perishable produce being transported in the container
4 that includes the steps of:

5 stacking air penetratable cartons containing said produce in rows adjacent to
6 both sidewalls of the container to establish a supply air plenum chamber between
7 each sidewall and a row of said cartons and establishing a return air aisle between
8 two rows of cartons so that the aisle extends down the center of the container,

9 placing pressure bars between each side wall and an adjacent row of boxes to
10 block the escape of supply air from the plenum chambers,

11 delivering a high volume of supply air into each plenum chamber to
12 pressurize the chamber whereby the supply air is forced through the air penetratable
13 cartons in heat transfer relationship with the produce stored in said boxes.

14 activating a gas generator at the start of a ripening cycle to add a ripening
15 agent into the supply air,

16 opening a normally closed fresh air exchanger at the end of said ripening
17 cycle to vent the ripening agent to ambient, and closing the fresh air exchanger after
18 the ripening agent has been vented to ambient.

1 2. The method of claim 1 that includes the further step of closing moisture
2 drains mounted in the container during said ripening cycle.

1 3. The method of claim 1 that includes the further step of mounting the gas
2 generator in said mixing chamber.

1 4. The method of claim 1 that includes the further step of mounting a
2 plurality of fan units in a stack within the mixing chamber at an entrance to each
3 plenum chamber for delivering a high volume rate of air into each plenum chamber
4 sufficient to force the supply air through said cartons.

1 5. The method of claim 4 including the further step of activating the fan units
2 in a given order.

1 6. The method of claim 1 including the further step of automatically
2 controlling the opening and closing of said fresh air exchanger.

1 7. The method of claim 2 including the further step of automatically
2 controlling the opening and closing of said drains.

1 8. The method of claim 4 wherein said fan units deliver 10,000 CFM or
2 more supply air to said container.

1 9. Apparatus for closely controlling the temperature of perishable goods in a
2 mobile container having a refrigeration unit for delivering conditioned air into a
3 mixing chamber located adjacent the front wall of the container, said apparatus
4 including:

5 a pair of supply air plenum chambers extending rearwardly from the mixing
6 chamber toward the rear of the container along the sidewalls of the container that are
7 arranged to receive supply air from said mixing chamber, one wall of each plenum
8 being spaced apart from an adjacent side wall of said container and being formed by
9 a stacked row of air permeable cartons containing said perishable produce,

10 fan means for delivering supply air from said mixing chamber into said
11 plenum chambers at a volume rate of flow that is high enough to force the supply air
12 into heat transfer relation with said produce contained in said cartons.

13 a gas generator located within the mixing chamber for introducing a ripening
14 agent into the conditioned air at the beginning of a ripening cycle.

15 a fresh air exchanger unit which is normally in a closed condition to retain
16 the conditioned air within said container during said ripening cycle and to exchange
17 conditioned air with ambient air when placed in an open condition at the conclusion
18 of said ripening cycle, and

19 control means for activating the gas generator at the beginning of a ripening
20 cycle and to place the fresh air exchanger unit in an open condition for a given period

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21 of time to vent the ripening agent from said container at the end of said ripening
22 cycle.

1 10. The apparatus of claim 9 wherein said fan means includes a series of fan
2 units mounted in vertically aligned stacks at an entrance to each supply air chamber.

1 11. The apparatus of claim 10 wherein said mixing chamber contains a
2 return air inlet through which conditioned air within the container is drawn by said
3 fan means back into the mixing chamber.

1 12. The apparatus of claim 9 wherein each plenum chamber further includes
2 a horizontal pressure bar secured to an adjacent side wall of the container and a
3 movable vertical pressure bar for adjusting the length of the plenum chamber.

1 13. The apparatus of claim 9 that further includes drain means mounted in
2 the floor of the container that is connected to the control means for placing the drain
3 means in a closed position wherein moisture is maintained within the container
4 during a ripening cycle and an open position wherein moisture in the container is
5 released to the surrounding ambient.

1 14. The apparatus of claim 13 wherein said drain means further include a
2 plurality of drains, each drain having remotely controlled drain valves for opening
3 and closing said drain.

1 15. The apparatus of claim 10 wherein said fan means are connected to said
2 control means which is programmed to activate the fan units in a given order.